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# John Reich Journal

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December 2019



Volume 29 / Issue 3

# JRCS

JOHN REICH COLLECTORS SOCIETY  
P.O. Box 3039 Centennial, CO 80161

The purpose of the John Reich Collectors Society (JRCS) is to encourage the study of numismatics, particularly United States gold and silver coins minted before the introduction of the Seated Liberty design, and to provide technical and educational information concerning such coins.

Annual dues \$25.00  
Life Membership \$625.00

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The John Reich Journal is the official publication of the Society and is distributed to all members in good standing. Members are encouraged to submit any articles encouraging the study of numismatics and / or relating to early United States gold and silver coins to the editors. Especially needed are articles containing new information about die marriages, die states of published die marriages, attribution methods, collections, collectors, etc.

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**Cover Photos:** The cover coin is an 1833 LM-3.5 half dime from the collection of Stephen A. Crain. Steve obtained this coin from the Jules Reiver sale held at Heritage in 2006. Reiver had owned the coin since 1980, when he purchased it from "Coins 'n Such." The die remarriage is quite rare, a strong R-7, with just four examples reported in the 2019 census. In preparation for the Jules Reiver sale, Crain decided to focus on just two coins, for he knew there would be strong competition and strong bids on nearly all of the half dimes. Crain focused on the two late die state coins he needed for his collection: the 1829 LM-3 with cud and this 1833 LM-3.5. By bidding on just two coins, Crain achieved the desired result and filled two very important and difficult holes in his collection.

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John Reich Collectors Society

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# Editor's Comments

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Welcome to the final issue of the JRJ for 2019. The FUN show is just weeks away. We will be having our meeting on Friday morning at 8:30 in room XXX of the Convention Center. Our speaker will be David Finkelstein and his talk is more about the Mint and Coinage Act of 1792. I'm sure David will have many new insights into our early coinage for our edification. Hopefully many of you can join us.

The E. Horatio Morgan collection of half dollars was recently sold in Baltimore by Stack's Bowers. Many major rarities changed hands and ended up in current JRCS members' collections. Congratulations to the new owners! The sale reinforced the importance of quality within any particular grade outside of the rarities that are infrequently offered for sale. After all, how many times in your life will you be able to purchase an 1805 O114 or an 1829 O120?

We are compiling articles for the Spring issue of the JRJ. Please consider submitting something for publication. You can send articles or questions to me at [bkaroleff@yahoo.com](mailto:bkaroleff@yahoo.com). All submissions will become eligible for voting for the Jules Reiver Literary Award for 2020.

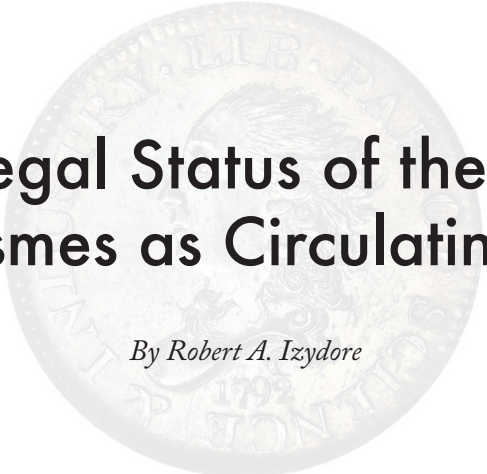
Everyone will find a ballot for the Reiver Award voting for 2019 packaged with this journal. Please select UP TO 3 articles from the ones listed on the ballot. Return the completed ballot to David Perkins at the address provided before March 15th to have your selections counted. The winner will be announced during our annual meeting at the ANA in Pittsburgh this August.

Many of you will find a dues renewal notice included in your envelope. Please send your dues check to Treasurer Perkins in a timely manner to assure you receive the journal for 2020. Why not send your Reiver ballot along with your dues? That would make Dave's life a little easier!

Richard Meaney is also accepting nominations for the Hall of Fame. Please nominate a worthy candidate by emailing Richard at [richard.meaney@aol.com](mailto:richard.meaney@aol.com). Any inductees will be announced at the Pittsburgh meeting.

The officers wish all of you a very Merry Holiday Season and a Prosperous New Year!





# The Legal Status of the 1792 Half Dismes as Circulating Coins

*By Robert A. Izydore*

There has been a significant amount of discussion in recent years as to whether the 1792 half dismes were official circulating coins of the United States. While new information has been published, the legal status of the half dismes as circulating coins has been largely ignored. This topic will be addressed herein.

## **LEGISLATION ESTABLISHING THE MINT**

The first legislation enacted under the new Constitution of the United States and related to coinage was a two-part resolution passed by both houses of congress on March 3, 1791. It resolved that a mint shall be established under regulations directed by law; and it authorized the President of the United States to hire the artists and workman needed to carry out the resolution, to stipulate the terms and conditions of their service, and to cause the procurement of the required apparatuses.<sup>1</sup> Secretary of State Thomas Jefferson mounted an unsuccessful effort to obtain the services of an engraver, chief coiner, and assayer from Europe for the forthcoming mint. Overall the resolution

did not have utility until the necessary regulations and funding for the mint were obtained.

Congress subsequently passed the Act Establishing a Mint and Regulating the Coins of the United States (mint act) on April 2, 1792.<sup>2</sup> It specified the officers of the mint along with their duties, salaries, and required surety bonds. The Act detailed the gold, silver, and copper coins to be struck, the value and composition of each, and the devices and legends that were required. The proportional value of gold to silver was set at fifteen to one. To secure conformity of the gold and silver coins to their respective standards, assays were to be conducted annually.

Armed with this legislation President George Washington on April 13 nominated David Rittenhouse, eminent inventor, astronomer, and mathematician, to be the Director of the Mint, and on May 3 he nominated Tristram Dalton, former Senator from Massachusetts, to be Treasurer of the Mint. Each nomination was approved by the Senate in one day.

Rittenhouse was in poor health and delayed acceptance of his appointment. He was sworn in as Director on July 1. In the interim he nevertheless carried out some of the duties of Director.

## HALF DISMES STRUCK

On June 9 Secretary of State Thomas Jefferson informed President Washington that Rittenhouse thinks a house for the mint located on 7th street can be bought for 1600 £ and additionally finds Henry Voigt (also Voight) to be “perfectly equal to the duties of the coiner.” Voigt, a watchmaker and inventor, was temporarily appointed as coiner on June 1. He had employed a number of workman for the mint by July 9 to make necessary engines and to prepare dies. The purchase of the mint property at 27 and 29 North Seventh Street was completed on July 18.

There was a flurry of activity on July 9, 1792, all recorded in letters. Mint Director Rittenhouse asked President Washington for permission “to Coin some Copper Cents & half Cents, and likewise small Silver, at least Dismes & half Dismes.” Washington asked Jefferson to draft a response approving Rittenhouse’s request. Jefferson responded by sending two forms of approbation, and Washington selected and signed one which was sent to Rittenhouse. The unused version was signed by Jefferson and sent to Rittenhouse as the response from the Secretary of State.<sup>3</sup>

Thomas Jefferson’s private memorandum books record when the 1792 half dismes were struck.<sup>4</sup> On July 11 he “Delivd 75. D. at the mint to be coined,” and on July 13 he “Recd. from the mint 1500. half dismes of the new coinage.” Around midday on the latter day he left Philadelphia accompanied by his daughter Maria,

recording “Set out for Monticello.” During his ten-day journey, his stay at Monticello, and his return trip to Philadelphia, there are multiple nominal expenses recorded which are divisible by five cents. After he arrived back in Philadelphia, the five-cent divisible expenditures virtually stopped. These recordings have been interpreted to show that Jefferson owned the half dismes, and he spent all of them during his trip. Thus the 1792 half dismes represent the first official circulating coins of the United States.<sup>5</sup>

In my September 2018 article published in *The Numismatist*<sup>6</sup> (“Thomas Jefferson’s Memorandum Books & the 1792 Half Dismes”) I demonstrated that this interpretation is faulty. Examination of Jefferson’s transactions for 1790, 1791, and 1793 shows that he had a comparable number of nominal five-cent-divisible transactions in these years as he had in 1792. The largest number of transactions occurred in 1790, before the half dismes were minted. The data for the four-year period do not support the notion that Jefferson spent any of the half dismes. I suggested that instead he was spending Spanish pistareens and their fractions as well as Spanish colonial two bit coins. The entries in the memorandum book also do not confirm who owned the half dismes.

## DISCUSSION

Striking the 1792 half dismes as patterns or trial strikes was legal under the mint act, but striking them as official United States coinage was not. A number of its provisions were not and could not be satisfied. Section 1 of the mint act specified that the officers of the mint shall be a Director, an assayer, a chief coiner, an engraver, and a treasurer. In July 1792 the Director and treasurer had been approved by the Senate

and commissioned by the President, but neither a chief coiner, assayer, nor engraver had been commissioned. Henry Voigt's appointment as chief coiner did not become permanent until January 28, 1793. Albion Cox did not begin work as temporary assayer until the spring of 1793. His official appointment was approved by the Senate on April 4, 1794, and Washington signed his commission on April 5. Joseph Wright was nominated as engraver in August 1793. He died during the yellow fever epidemic that swept Philadelphia several weeks later. Under Section 5 the assayer, chief coiner, and treasurer were required to post surety bonds in the amount of \$10,000 to the satisfaction of the Secretary of the Treasury "previously to entering upon the execution of their respective offices." Only the Treasurer Dalton had posted his bond. Section 18 required that the treasurer set aside from every separate mass of silver or gold coins made at the mint not less than three pieces which shall be assayed on the last Monday in July once each year. There is no evidence that any of the half dismes were set aside and assayed. In fact, the Assay Workbooks of the U.S. Mint show that no assays were conducted prior to 1797.<sup>7</sup> The mint act also did not provide for the services of a refiner and melter. As a result the bullion or coins delivered by Jefferson could not be assayed or refined and melted, and the half dismes were not struck at the required composition. It has been suggested that Jefferson deposited Spanish American silver dollars, and their composition was considered close enough to the mandated standard.<sup>5</sup> However, it is not known what type of bullion or coin he actually deposited, and the specific gravities of two half dismes that have been determined correspond to compositions that are far removed from the required composition of 0.8924 fine.



*Obverse of the 1792 Half Disme. "Courtesy of Heritage Numismatic Auctions, Dallas, Texas."*

On December 30, 1793 Jefferson wrote to President Washington and recommended among other things that the office of Refiner be included among the mint offices. Washington forwarded Jefferson's letter to Congress the next day. Congress passed "The Alteration of the Mint Act" which was signed into law by President Washington on March 3. However, it did not provide for a Refiner. Consequently when the Bank of Maryland made the first deposit of silver bullion on July 18, mint Assayer Albion Cox was assigned by Director Rittenhouse to refine it.<sup>7</sup> David Ott was hired as a contract refiner in November 1794, and he was temporarily appointed as Melter and Refiner pro tem when the position became official on March 3, 1795.

The mint itself apparently did not consider the half dismes to be official coinage. There is no mint record indicating that the half dismes were struck or issued, and no Mint Director's report was made for 1792. We only have the recordings in Jefferson's private memorandum book and not an official record of the Department of State. Interestingly, in 1860 James Ross Snowden, Mint Director from 1853-1861,

published in *A Description of the Ancient and Modern Coins in the Cabinet Collection of the Mint of the United States* that Voigt's first account book shows that the half dismes were made at the mint in October 1792 when three new coin presses were ready for testing. If this is true, Voigt did not record the July striking. There is some evidence that perhaps several hundred additional half dismes were struck after July 1792. This is based on observations that some half dimes were struck from dies that were in a later die state after rusting or undergoing spalling during prolonged storage.<sup>5</sup> Any entry in the account book indicating that half dismes were officially struck would support their legitimacy as official mint products. Unfortunately, Voigt's first account book which should shed some light on the current uncertainty is missing. Additionally, unlike the unflattering newspaper accounts that appeared following the release of the chain cents in 1793, there are no contemporary newspaper reports describing the release of the half dismes. An announcement of the sovereign nation's first official coinage would be expected to be issued to the press by the mint or other government agency.

In his annual address to Congress on November 6, 1792 President Washington stated: "There has also been a small beginning in the coinage of half-dismes; the want of small coins in circulation calling the first attention to them." This statement is cited by virtually every modern numismatic author as evidence that the 1792 half dismes were officially struck coins of the United States. The draft of "Paragraphs for the President's Annual Message to Congress, 15 October 1792" was written by Thomas Jefferson who sent it to Washington on that date. The two paragraphs were concerned with foreign

affairs and the mint, respectively, both under Jefferson's direction. The wording in the draft relating to the mint was "There has been also a small beginning in the coinage of the half dismes and Cents, ..." Jefferson sent Washington a revision of the draft on November 1, but only the paragraph on foreign affairs was modified. The wording "half dismes and Cents" was retained. It has been proposed by several authors that the word "Cents" refers to the 1792 Birch cents. It is revealing that Jefferson would link the Birch cents with the half dismes as coinage when he would have known that perhaps only a dozen of the former were struck as patterns while he had recently received 1,500 of the latter from the mint. A rational conclusion is that Jefferson considered the half dismes to be patterns, and he used the word "coinage" to refer to either pattern coins or official coins.

The fact that a significant number of surviving half dismes show wear is often offered as evidence that they circulated. A few of the more worn coins have been holed for use as jewelry. It is possible that some of the half dismes were placed into commerce. The public was unfamiliar with them, and they appeared to be official. It is also possible that some half dismes were not carefully stored and developed wear during storage. Many may have been weakly struck to begin with, and this would compound the situation. It is outside the scope of this article to address how the coins were distributed. Even if a percentage of the half dismes were used in commerce, that does not mean that they had legal status. In April 1844 retired Chief Coiner Adam Eckfeldt told Philadelphia optician John A. McAllister Jr. in an interview that the half dismes belonged to President Washington, and

the President gave them away as gifts. This was the accepted narrative for the next 120 years. Beyond that claim, it is not known how the half dimes were dispersed.

On several occasions government officials and the Mint Director affirmed that no precious metal coins were minted prior to the striking of the 1794 silver dollars. On December 30, 1793 Thomas Jefferson sent a letter to President Washington concerning the inability of Voigt and Cox to post their \$10,000 security bonds (see below) and stated<sup>3</sup>

*[t]he coinage of the precious metals, has, therefore, been prevented, for sometime past,...*

This indicates that Jefferson did not consider the the 1792 half dimes to be official precious metal coins.

Washington reported in his address to Congress on November 19, 1794<sup>3</sup>

*The mint of the United States has entered upon the coinage of the precious metals; and considerable sums of defective coins and bullion have been lodged with the Director by individuals. There is a pleasing prospect that the institution will, at no remote day, realize the expectation, which was originally formed of its utility.*

Submitted to Congress on the following day was a letter dated October 28 from David Rittenhouse to Secretary of State Edmund Randolph.<sup>3</sup> Rittenhouse reported that the mint had been up to then largely engaged “in erecting the necessary buildings, furnaces for melting, refining, and assaying &c.,” but “nearly one million of cents have, however, been coined ... and a beginning has been made in coining the

precious metals.” The precious metal coined was silver for the 1794 silver dollars which were struck that October. The Washington and Rittenhouse statements confirm their belief that silver dollars and not the half dimes were the nation’s first silver coinage. Their belief was corroborated on July 22, 1797 when President John Adams issued a Proclamation that stated in part:<sup>3</sup>

*the coinage of silver at the Mint of the United States commenced on the 15th day of October, 1794, and the coinage of gold on the 31st day of July, 1795; ...*

It had been eight long years since Jefferson proposed a decimal system of coinage to the Contiental Congress until the mint act was passed. Efforts towards establishing a permanent home for the mint, hiring the needed personnel, and procuring the essential equipment were finally well underway when the half dimes were struck in July. It does not make sense that Washington, Jefferson, and Rittenhouse would undertake an illegal minting of business-strike half dimes when they could be legally struck within a short period of time. The evidence available shows that at least Washington and Jefferson proceeded carefully to follow the mint act.

When Henry Voigt was hired as coiner on June 1, 1792, the Senate was in recess and had not approved his appointment as required under the mint act. On June 30 the President’s personal secretary, Tobias Lear, wrote to Jefferson

*The President of the U. S. wishes the opinion of the Secry. of State whether the present chief Coiner of the Mint is properly authorized by the resolution of Congress passed on the 3d day of March 1791.*



The matter was sent by Jefferson to Attorney General Randolph for a legal opinion. Randolph's opinion given on July 7 was that the President could not grant a temporary commission to a Chief Coiner under the mint act, which was legally controlling.<sup>3</sup> Washington accordingly did not give Voigt a commission but instead approved Voigt's employment as a temporary coiner. The President did not issue a commission until the Senate had confirmed his nomination of Voigt.

On August 15, 1793 Jefferson wrote to the President concerning a request he received from Rittenhouse.<sup>3, 7, 8</sup>

*The Director also informs me that much silver is brought to him to be exchanged for coin, but not having the coin ready the silver is carried away again. he is of opinion that if the Treasurer was directed to deliver him 1000. Dollars to be coined into dismes & half-dismes, & to be permitted to lie in the mint till wanted for the Treasury, it would serve him in the mean time as a stock exchange, and enable him to take in the parcels of silver offered as beforementioned. he would by this means throw small silver into circulation & greatly relieve the demand for copper coinage.*

Section 14 of the mint act had a provision that allowed depositors who deposited bullion that met the required standard (89.24% silver and 10.76% copper for silver coinage) to make an immediate exchange for coins at the value of the bullion with a deduction of one half percent, provided the mint had the coins available. Rittenhouse wanted \$1,000 of treasury funds to temporarily reside in the mint until they were needed by the treasury. While at the mint, they would be

converted into half dismes and dismes to pay out to bullion depositors. This would be legal under Section 14. No written record of Rittenhouse's request has been located. It is similar to his July 9, 1792 request to the President for permission to coin some "small Silver, at least Dimes & half Dismes." At the time of the latter request Coiner Voigt had received his commission but had not yet paid his surety. Cox had not yet been commissioned as assayer. Nevertheless, the Director wanted permission to mint and pay out official silver coinage. This would be a violation of section 5 of the mint act.

Recently located on Founders Online by this author was the President's response via Tobias Lear on August 21<sup>3</sup>

*The President likewise informs the Secretary, that the sum of one thousand dollars will be furnished from the Treasury Department to commence a coinage at the mint—and if any agency of the President is necessary for drawing the said sum from the Treasury to mention to him in what way it is so necessary that he may do it accordingly.*

Lear further added<sup>3</sup>

*The President has understood that Mr Voight the Chief Coiner, has not yet qualified himself by giving security agreeably to the law. If this be the case, the President wishes the Secretary to consider how far it would be proper to permit a coinage to be commenced.*

Washington obviously did not want to violate the mint act and asked for a legal clarification. Jefferson did not send a reply but asked Attorney General Randolph for an opinion. Randolph's "Opinion on



Sureties for Mint Officers” was delivered on December 6. It asserted that the assayer Cox and chief coiner Voigt cannot execute their offices until their sureties of \$10,000 dollars are paid. It is not certain what happened concerning the transfer of one thousand dollars to the mint. No records have been found indicating that this occurred, and no recorded mint expense warrant was issued showing that silver was purchased for coining. If a record confirming the transfer of the money is eventually located, numismatic theory regarding the 1792 half dimes would be inexorably altered. Potentially up to 20,000 additional half dimes could have been struck with the 1792 dies, and these pieces might account for the late die state half dimes that have been reported. In all likelihood Jefferson convinced the President to hold off on executing the transfer pending Randolph’s opinion. Mint Director Elias Boudinot clarified the matter on January 1, 1803. He submitted to President Jefferson that day his annual report on the Issues and State of the Mint which included the statement:<sup>3</sup>

*There have never been any of the precious Metals coined on Account of the Government of the United States.*

On December 30, 1793 Jefferson formally notified the President that Voigt and Cox cannot pay their ten thousand-dollar sureties, and this was preventing the minting of silver and gold coinage. He recommended that the bonds be reduced by Congress. In the draft of this letter Jefferson included a paragraph which proposed that congress be asked to pass legislation that would grant what Rittenhouse had requested in August, stating that “a deposit of a few thousand dollars of public property in the mint, ready



*Reverse of the 1792 Half Disme. "Courtesy of Heritage Numismatic Auctions, Dallas, Texas.*

coined, to serve merely as a basis of prompt exchange, would very greatly increase the quantities to be coined on private account.”<sup>3</sup> The paragraph was omitted in the final draft. The President referred the matter to Congress the next day, and on March 3, 1794 an Act in Alteration of the Act Establishing a Mint and Regulating the Coins of the United States was passed which reduced the sureties for both the chief coiner and assayer to five thousand and one thousand dollars, respectively. Henry Voigt’s surety was paid on April 4, 1794 by two members of the United States House of Representatives and two members of the Pennsylvania House of Representatives.<sup>9</sup> Albion Cox’s surety was posted on April 10, 1794 by Charles Gilchrist.<sup>10</sup> The pathway to the coining of precious metals was thereby legally open.

## CONCLUSION

The 1792 half dimes were not minted in compliance with the provisions set out in the mint act and were not legal as official coins of the United States. The absence of official government records; the recorded statements made by Jefferson, Washington, Adams, and Rittenhouse; the rulings made by Attorney General Randolph; as well as

the lack of a government announcement or newspaper account of their release support this conclusion.

The correspondence on July 9, 1792 involving Washington, Jefferson, and Rittenhouse shows that permission was asked for and granted to coin silver half dismes and dismes. But what was the purpose of coining the half dismes? For well over a century numismatists believed that they were coined as patterns, and this belief was in harmony with the mint act. In recent years the narrative has changed. Based on entries in Jefferson's private memorandum book for 1792, some authors have concluded that the half dismes were the first official circulating coins of the United States,<sup>5</sup> but this conclusion is not substantiated when the entries for 1790, 1791, and 1793 are considered.<sup>6</sup> Prior authors have largely ignored the resulting conflicts with the mint act.

Why did George Washington give permission to coin half dismes on July 9, 1792 but was concerned about the legality of minting more in August 1793? Why did Thomas Jefferson in December 1793 state that precious metal coinage at that time was illegal while he had participated in having silver half dismes struck in July 1792? Why did Rittenhouse request that silver half dismes and half dismes be minted in July 1792 and then report to Randolph in October 1794 that the minting of the 1794 silver dollars marked the beginning of the coining of precious metals? The most logical explanation is that in July 1792 all three officials intended that the coins were to be struck as patterns in conformity with the mint act. There is no documentation of their intents in July 1792, but the above cited statements of Washington,

Jefferson, and Rittenhouse subsequent to the striking of the half dismes and prior to Rittenhouse's request in August 1793 are known for certain. It is reasonable to assume they had the same sentiments in July 1792. It appears that Rittenhouse had a change of mind in August 1793. The reason for this is not known.

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# Different Ways to Collect Proof Capped Bust Coins

*By Joseph Lamonte*

Proof Capped Bust coins were specially prepared coins minted by a still very young United States mint. All of these coins are very rare with survival numbers ranging from only one example to possibly twenty or so survivors. None of them are necessarily cheap, but I feel that they are extremely undervalued in today's market, particularly in grades Proof 64 and below. A year or two may go by before a single coin in a particular denomination becomes available. The following collecting methods require patience and several years to complete, even if money were no object.

The first way to collect these coins is a basic four-piece type set consisting of a half dime, a dime, a quarter and a half dollar. Heritage has only sold one Proof Bust Half Dime in 2019 at the time this article was written. This coin was an 1829 PCGS Proof 65 Cameo CAC with the Eliasberg provenance. Prior to that an 1834 NGC Proof 64+ CAC Proof Half Dime with the Newman provenance was sold twice by Heritage in 2017. This coin sold in February 2017 for \$11,750 and later in August for \$12,925.

An unusually high number of Proof Capped Bust Dimes have been sold by Heritage in 2019. Of the eleven coins sold, nine were from the Greensboro VII Sale held in January. An 1827 NGC Proof 64 CAC JR-12 realized \$28,800 and an 1829 NGC Proof 65 JR-3 sold for \$31,200. The other seven coins in the Greensboro Sale realized prices ranging from \$50,400 to \$156,000. In June, a PCGS Proof 64 JR-1 1834 Dime with the Allen Lovejoy provenance realized \$22,800. An 1835 NGC Proof 65 JR-4 Dime also sold in July for \$24,000.

A record number of Proof Bust Quarters have sold in 2019 at Heritage: fifteen different coins to be exact. Fourteen of these were from the Greensboro VII Sale. Prices varied ranging from \$24,000 for a questionable ANACS 1831 Proof 64 B-4 to \$444,000 for an 1827 B-1 Original. An 1835 PCGS Proof 63 B-7 sold in late January for \$21,600. Only three Proof Bust Quarters were sold in 2018 at Heritage. One of them was an attractively toned 1828 PCGS Proof 62, B-4, R-7 Quarter with a provenance dating back to 1910.



1831 Proof Capped Bust Quarter PCGS Proof 64+ Cameo CAC, Ex: Pittman

This coin had a few marks and hairlines but still had good eye appeal and realized \$28,800.

No Proof Bust Halves have sold at Heritage in 2019 as of September which validates the rarity of these coins. In 2018 Heritage only sold two Proof Bust Half Dollars. One was a cleaned 1818 O-107 and the other was an 1827 PCGS Proof 66 CAC O-121. 2017 offered more possibilities with four coins selling at Heritage. An 1834 NGC Proof 63 O-106 R-8 sold for \$15,575. An 1827 NGC Proof 62 O-121 high R-7 realized \$25,878. The 1827 Half Dollar has crossed over to PCGS Proof 63 and is being offered at over twice the last selling price. An 1829 NGC Proof 63 CAC O-111 (unique as a Proof) sold for \$39,950 and an 1832 NGC Proof 65 O-106 R-8 realized \$54,050.

The four-piece type set can be expanded to include both types of Capped Bust Dimes (Small Size and Large Size), both types of Proof Capped Bust Quarters (Small Size and Large Size) and two types of Proof Capped Bust Halves (Lettered Edge and

Reeded Edge). Thus, we now have a seven-piece type set which is much more difficult to complete when considering how few Proof Large Size Capped Bust Dimes and Quarters are available. The Reeded Edge Half Dollar in Proof is also a very difficult coin to locate.

The Proof Bust Silver Dollars of 1801, 1802, 1803, and 1804 are not considered for a type set because they were not produced until 1834, or later, and they are prohibitively expensive.

Another way to collect Proof Bust coins would be to assemble a set for a particular year. Inclusion of the Half Cent and the Large Cent would make this feat even more challenging. Many of the earlier sets only require 3 or 4 coins to be complete including the copper coins. 1831, 1833, 1834 and 1835 need the same 6 coins for completion. The coins required are the Half Cent, Large Cent, Half Dime, Dime, Quarter and Half Dollar. The last three years 1836, 1837 and 1838 require different types of Liberty Seated coins. All





*1831 Proof Capped Bust Half Dollar PCGS Proof 64 Cameo*

of these sets, whether they are comprised of 4 coins or more, will take many years to complete.

A set of Proof Capped Bust coins with important provenances is a novel idea. A high percentage of these coins can be traced back to Brand, Garrett, Hawn, Norweb, Stack, Lovejoy, Starr, Eliasberg, Pittman, Newman (Green), Gardner, Pogue and many other famous numismatists. Presenting several of these coins together would be quite impressive. Many Proof Bust coins exist with provenances yet to be rediscovered.

A denomination set by year is another type of Proof Bust coin set to consider. For Proof Bust Half Dollars, 19 different coins would be needed for a year set. Proof Bust Quarters would require 16 different coins. There are 15 different years for Proof Bust Dimes (the 1837 Specimen is not counted). Proof Bust Half Dimes seem like the only realistic denomination to collect by date with only six different dates. Even with so few coins needed, only the 1829 and 1834

Proof Bust Half Dimes appear with any frequency.

One collector today is well on his way to completing a date set of Proof Capped Bust Quarters. There can be only one complete set of Proof Bust Quarters as the 1823/2 is unique.

Another more in depth collection is a denomination set by year and variety. This would only make a difficult task virtually impossible. In particular, collecting Proof Bust Dimes by variety requires 26 different coins, eleven coins more than what is needed for a date set. Collecting Proof Bust Quarters by variety adds at least seven more coins for a total of 23 with most of the additional seven being the more expensive Large Size Quarters. Proof Bust Half Dollars would require adding the three Crushed Lettered Edge coins for the variety set, a costly endeavor.

Collecting only CAC approved Proof Capped Bust coins is another option.



1832 Proof Capped Bust Dime PCGS Proof 64 CAC, Ex: Lovejoy

There are several years where no Proof Capped Bust coins have CAC approval in a certain denomination. Proof Bust Half Dimes exists only for the years 1829, 1830 and 1834 which have been CAC approved. Only 14 Proof Half Dimes out of 46 certified coins at PCGS and NGC are CAC approved. Large Size Proof Bust Dimes have no coins which are CAC approved for 1824/2 and 1825. There are only six out of 24 certified Large Size Proof Bust Dimes with CAC approval. The Small Size Proof Bust Dimes have 20 coins approved from a total 88 certified coins. Only one year for Small Size Proof Bust Dimes does not have CAC approval, 1828.

Large Size Proof Bust Quarters are harder to figure out exact populations with 32 coins certified for the 1827 Originals and Restrikes. With only 18 known 1827 coins at present that number (32) will be reduced to 18 for comparison purposes. The total Large Size Proof Bust Quarter population is approximately 48 coins with 16 of them being CAC approved. Only the year 1824/2 does not have a CAC approved coin.

The Small Size Proof Bust Quarters have the most success of getting CAC approval. There is a total population of 55 certified coins, of which 20 of them have received CAC approval. Only the years 1837 and 1838 do not have any CAC approved coins.

(\* All CAC and population numbers as of 9/1/2019)

Proof Lettered Edge Bust Halves are the toughest coins to locate with CAC approval. Only 15 of the total population of 106 coins have been beamed by CAC. The 1836 Proof Reeded Edge Halves will also be a challenge with only four coins out of a total of 28 certified coins approved by CAC.

The basic four-coin set is a good starting point for anyone interested in adding Proof Bust coins to their collection. The Half Dime and the Dime in Proof 64 cost about \$15,000-25,000 each. A nice Proof 63 or Proof 64 Bust Quarter will cost between \$20,000 and \$35,000. Proof Bust





*1834 Proof Capped Bust Half Dime PCGS Proof 65+ CAC, Ex: Norweb*

Half Dollar prices are literally all over the map. An NGC Proof 63 can sell for a low of \$15,000 to a high of \$39,950. Proof 64 prices can start at \$39,000 and climb to \$58,750.

The basic set can be made more interesting by adding a Proof Classic Head Half Cent and a Proof Coronet Head Cent from the 1830's. Classic Half Cent prices for Proof 63 and 64 Brown coins are inexpensive in my opinion. These coins have only 30-40 known and can be purchased for \$5,000 to \$6000 in Proof 63 Brown and \$8,000 to \$9,000 for a Proof 64 Brown. Some years have less than 20 known for the same price. The Proof Coronet Large Cent is a bit more expensive. An 1837 or 1838 Proof Large Cent in Proof 64 Brown is valued at \$25,000 with only 10 or 12 known for both years.

Assembling a Proof Bust coin set for a particular year is a second option that may be achievable. As mentioned earlier, patience will be required. All of the other

methods of collecting Proof Bust coins will require extremely deep pockets and many years of searching. Though, it never hurts to dream...

Comments and questions to [slamo@att.net](mailto:slamo@att.net)

### **CREDITS:**

CAC: Population Report.

Douglas Winter: Advice and support.

"Early Quarter Dollars of the United States Mint" by Rory R. Rea, Dr. Glenn Peterson, Bradley S. Karoleff and John J. Kovach, Jr.

Heritage: U.S. Coin Auctions FUN Show Platinum Night, January 2019 and the Auction Archives.

NGC: Census.

PCGS: Coinfacts and Auction Prices Realized.

"Bust Dime Variety Identification Guide" by Winston Zack, Louis Scuderi and Michael Sherrill.

*\*All photos courtesy of PCGS Coinfacts*



# Dime Census

*By Jim Matthews*

This year we had 25 participants in the Draped Bust and Capped Bust dime census and I want to thank each of the participants who took the time to submit their holdings. There are a few other high grade collections out there which chose not to submit their holdings to this census and some of these can be viewed on the PCGS Set Registry or the NGC Registry set groups. Once again, congratulations are to be awarded to member #1423 for having the only complete die marriage collection of Capped Bust dimes, with an example of each of the known 123 die marriages. The stopper for most collectors is the recently discovered 1827 JR-14 die pair, which I believe is represented by just two examples. Hopefully a few more will turn up so other collectors can complete their collections, so keep on hunting!

Another extremely challenging die marriage is the 1827 JR-10 with just 5 examples reported in the Census and likely about 12-15 known. This is believed to be the first die pairing of any coins struck on the Mint's new press which was delivered

in November of 1827, by the firm of Rush & Muhlenberg. More on that soon in a future article. Thus, the 1827 JR-14 and the 1827 JR-10 die marriages are the two that are missing from the most advanced collections, with three separate collectors holding at 122 die marriages (each lacking only an example of the 1827 JR-14) and four more collections nipping at their heels with 121 die marriages.

Other notable die marriages which have challenged collectors are the 1820 JR-12 with just 10 examples reported and the 1821 JR-2 and 1824 JR-4 each with 11 examples reported. These last two die marriages are not only tough to find, but survive in overall low average grades, coming in at Fine-13 and VG-11 on average in our census. Clearly demand for any of these die marriages in high grade remains fierce. Of the Closed Collar, reduced size Capped Bust dimes (1828-1837) the rarest die marriage is the 1833 JR-3, followed by a select group of rarities that includes the 1829 JR-10 (curl base), 1830 JR-3 and 1833 JR-2.

The Draped Bust dime census had 14 participants in this year's update. The series, with 28 possible die pairings is certainly one of the most challenging to undertake, fraught with rarities and budget breaking examples in nearly every date. The two rarest die marriages of this series include the 1796 JR-7 and 1802 JR-1, each are believed to have just 2 examples known. None were reported in our Census information this year by any collectors, but we suspect they are held in specialized variety sets. It is clear from the census data this year that several collectors are building die marriage sets and these coins are highly collectible in all grades. Affordability is of course a major factor, but again, collectors can buy whatever coins they choose to represent this intriguing series.

In conclusion, many of the participants in the Draped Bust dime series have built significant collections in the past few years, others have added methodically to their sets as coins (and budgets) allowed. A wide array of grades can be purchased with patience and few collectors undertake this significant series of coins due to their rarity and limited availability. Thankfully, most of the die pairings can be found with patience aside from the two ultra rarities mentioned above. During the past few years the amazing Mint State collection of Capped Bust and many condition census Draped Bust coins was broken up and sold to several collectors who's sets are rapidly advancing in completeness. Their sets now contain several of these prized pieces. This opportunity may not come again anytime soon, as most collectors seem to be currently holding or adding to their collections. One collector noted that he had only a single Capped Bust dime, an

1832 JR-5 in AU58 — a coin that has an early "slab" of sorts, as it is encased inside a glass bottle stopper which has somehow survived unbroken for nearly 180 years! Other examples are known in other bottle stoppers but very, very few, and they are highly regarded by both numismatists and early glass specialists. Previous articles in the Journal discuss these at length. Again, thank you all for your participation in the Dime Census.



*1803 JR3 Draped Bust Dime image courtesy HA.com.*

Draped Bust Dime Census - Table 1

Year	JR#	Rarity	LM66	950	1068	1452	1423	1300	1490	48	869	LM13	1521	855	1510	323	RPD	AVG	MAX
1796	1	3						3			25						2	14	25
1796	2	4-	58						40								2	49	58
1796	3	5	30		3	8											3	14	30
1796	4	4	8	53	6						25						4	23	53
1796	5	5	40	53													2	47	53
1796	6	3	10	45	4										25		4	21	45
1796	7	8															0	0	0
1797	1	4	4		3	8	15		20								5	10	20
1797	2	4	20	45	10	6	8		40	4							7	19	45
1798	1	3	30	61	10	8		3									5	22	61
1798	2	5+	3	15	6					3			2				5	6	15
1798	3	5+	35		2	4											3	14	35
1798	4	3	40	45	12	20	12			8	25	4	2				9	19	45
1800	1	4+	35	40	35		12	8	40				4				7	25	40
1800	2	4+	12	45	10	30	3	4						3			7	15	45
1801	1	4	30	50	15	30	6	3	40		25	3					9	22	50
1801	2	4+	8	40	8	10	10	8		3	4						8	11	40
1802	1	8															0	0	0
1802	2	5	30	45	3	8		12				1					6	17	45
1802	3	6	20	45	6		2										4	18	45
1802	4	4	40	40	2	8	6	6	20	4		8					9	15	40
1803	1	6+	4	2	1			3									4	3	4
1803	2	6-	30	12	2		8	3				2					6	10	30
1803	3	4	20	45	3	3	15	3	30	3				8			9	14	45
1803	4	5	20	53	1	25	3	3									6	18	53
1803	5	7+	6	4													2	5	6
1804	1	5	20	15		35	12			3							5	17	35
1804	2	5	15	2	4	15	1		40								6	13	40
1805	1	4	20	55	6	10	3	4		2	25					4	9	14	55
1805	2	1	30	62	25	8	15	6	55	8	15		3		40	8	12	23	62
1807	1	1	10	62	25	20	20	40	20	3	25		3	3			11	21	62
# Marriages			28	24	24	18	17	15	10	10	8	5	5	3	2	2	31 Known Die Marriages		
Avg. Grade			22	39	8	14	9	7	35	4	21	4	3	5	33	6			

Capped Bust Dime Census - Table 2

Year	JR#	Rarity	1423	LM56	1068	1300	578	323	869	48	1452	1212	LM13	1006	1057	114	855	1521	1510	1490	519	70	RPD	AVG	MAX
1809	1	3+	6	45	6	20	45	8	20	3	40	10		50	25		8	3	50	58	15		17	24	58
1811	1	3	45	45	15	12	55	30	15	35	58	20	45	58				20	58	58	25	15	17	36	58
1814	1	3	25	30	25	40	35	45	15	8	50	25	35		6	30	12	25	30	53			17	29	53
1814	2	3	25	40	20	30	30	10	15	6	40	15	45	12	15				50				14	25	50
1814	3	2	12	55	12	10	45	50	30	2	58	20	45	50	8	58		12	50				17	34	58
1814	4	2	15	50	25	20	55	30	20	12	63	40	35	40	12	20			45	45	25		18	33	63
1814	5	4	10	30	30	6	53	30	45	3	30	12	58	40	3	12	4	8	40	30			18	25	58
1820	1	3	25	55	40	20	55	40	30	6	45	30	40	40	15	15		15	40	58			18	32	58
1820	2	3	15	50	20	20	45	45	20	6	53	20	45	25	15	15			53		20	30	17	29	53
1820	3	4	20	30	30	20	50	15	10	3	45	15	58	20	12								13	25	58
1820	4	4+	6	30	30	3	20	40	4	10		25	45	10	12								12	20	45
1820	5	4	30	55	20	30	45	12	12	4	25	45	45	20	12	20			20				15	26	55
1820	6	3	12	35	45	10	55	40	12	2	62	35	45	25	8	30	4	20					16	28	62
1820	7	2	15	35	55	8	61	30	20	3	55	30	35	20	12	30		20			15		16	28	61
1820	8	3	55	50	25	8	55	53	20	3	40	30	40	35	20	45		15	35	58	12		18	33	58
1820	9	4	15	30	40	12	55	8	8	4	25	30	35	20	15								13	23	55
1820	10	3	10	25	25	4	62	15	20	2	50	25	40	20	8	53	8						15	24	62
1820	11	3	12	35	30	20	58	45	10	20	55	25	15	30	12	20	4		30	58			17	28	58
1820	12	5+	15	45	10	10	15	15	10	30	3		55										10	21	55
1820	13	3	12	30	35	3	58	35	15	4	58	25	50	15	10	45	3	35		58			18	30	58
1821	1	2	15	30	45	10	53	45	8	20	53	25	40	40	12	35	20			45			16	31	53
1821	2	5	12	20	15	20	6	3	12	6	4	10	35										11	13	35
1821	3	4	35	35	25	6	25	20	35	20	40	20	45	20	10	6	3	20					16	23	45
1821	4	2	25	45	40	12	58	40	20	6	53	30	45	45	15	45					25		17	35	58
1821	5	3	35	35	30	4	58	45	20	12	63	45	53	20	10	55		35			4		16	33	63
1821	6	2	12	15	30	8	58	20	30	4	53	45	30	30	15	35	12				10		16	25	58
1821	7	2	12	15	25	20	55	40	20	2	55	15	45	45	15	55	8	15	45	58			18	30	58
1821	8	2	35	30	45	20	55	30	12	20	40	30	53	25	10			30		58			15	33	58
1821	9	2	15	10	50	20	62	25	15	8	55	20	45	45	12	35	20	15	45				18	30	62
1821	10	4-	15	25	25	10	55	40	10	12	45	35	53	12	6	20							14	26	55
1822	1	3+	10	50	3	20	20	4	8	3	8	10		12					12	20	3		14	13	50
1823	1	3	30	40	25	10	58	4	45	2	53	20	35	30	6	45	8	10	30	53	15		19	27	58
1823	2	4	25	55	35	10	45	6	6	6	15	30	55	10	12		3				12		15	22	55
1823	3	2	58	40	45	4	40	25	12	6	62	58	45	40	12	35	12	20	40	58	15		19	33	62
1824	1	1	20	50	35	8	58	10	10	40	61	30	50	40	10	55	8	12	40	53	4	8	21	31	61
1824	2	5+	12	10	4	8	20	12	3	6	3	20	25										11	11	25
1825	1	4	25	25	30	4	58	8	20	15	62	15	55	12	15	8		30			15		16	25	62
1825	2	2	30	55	35	8	58	40	12	15	53	40	35	30	12	15	20				10		17	31	58
1825	3	4+	20	30	30	8	63	15	30	35	40	20	45	12	10				30	53			15	29	63
1825	4	3-	30	35	45	12	50	10	3	8	45	45	35	30	12	12			25		8		16	25	50
1825	5	4	12	58	10	8	50	55	30	12	3	12	58	12	8								13	25	58
1827	1	3	40	50	30	40	50	50	40	12	61	45	45	15	10	55		10					15	37	61
1827	2	4+	12	45	4	8	10	25	8	4	8	12	40	4		12							13	15	45
1827	3	1	12	25	10	45	55	60	30	12	50	25		30	12		12	25	35				15	29	60
1827	4	2	8	12	35	35	53	30	15	10	45	25	55	12	12	20							14	26	55
1827	5	3	45	58	20	4	50	45	20	8	30	12	45	20	10			12					15	29	58

Capped Bust Dime Census - Table 2 (continued)

Year	JR#	Rarity	1423	LM56	1068	1300	578	323	869	48	1452	1212	LM13	1006	1057	114	855	1521	1510	1490	519	70	RPD	AVG	MAX
1827	6	2	12	50	40	20	53	40	20	12	55	30	45	58	12	15			30	55			16	34	58
1827	7	3	8	40	40	30	55	35	8	4	58	30	45	58	20	12	8		58				16	32	58
1827	8	4	45	30	20	20	63	30	6	4	8	35	55	15	12	12		15					15	25	63
1827	9	4	12	35	25	30	58	30	25	15	35	30	62	30	8	30					25		15	30	62
1827	10	6+	3	6	12	30							4										5	11	30
1827	11	2	40	30	25	6	62	45	6	4	58	30	58	40	15	35				50	10		16	32	62
1827	12	1	12	12	40	20	62	40	8	20	40	25	55	12	15	12	8	40			10	25	18	25	62
1827	13	3	30	25	35	20	55	30	30	3	40	35	62	50	20	8	3	15			15		17	28	62
1827	14	8	8																				1	8	8
1828	1	2	40	35	45	8	58	30	20	10	58	35	55	55	10	45		20	55	53	35		19	38	58
1828	2	3	15	45	25	8	55	10	53	4	58	45	53	15	7		4	45	20	40	15		18	29	58
1829	1	4+	15	55	15	10	62	50	20	12	55	53	40	40	12	8	4	20	40	50			18	31	62
1829	2	2	4	30	30	10	50	25	30	8	53	45	53		20	4	4	20	55	35	50		18	29	55
1829	3	4	50	50	3	20	53	20	50	8	35	55	62	30	15	50	12	35		53			18	34	62
1829	4	2	40	40	45	10	62	45	40	6	55	40	50	45	12	10	25		45		15		17	34	62
1829	5	4	15	55	45	30	50	50	50	10	8	50	55	15	10								13	34	55
1829	6	3	6	45	40	55	63	45	35	15	58	61	50	63	10	58			30				15	42	63
1829	7	1	12	30	3	30	58	40	30	4	63	20	35	45	8	45	20	35			3		19	30	63
1829	8	4	15	30	35	12	55	40	15	6	50	35	45	40	8	45							14	31	55
1829	9	4	8	35	35	8	61	53	8	8	40	25	50	10	8	20	3			40			16	26	61
1829	10	5	4	8	25	4	10	8	8	6	8	8	20				12						12	10	25
1829	11	4	15	50	25	4	20	53	50	8	50	40	45	10	8	15		12					15	27	53
1829	12	3	8	20	55	8	63	10	40	6	53	30	45	30	15	8	12	40	20	40			18	28	63
1830	1	4	8	50	8	30	10	20	35	6	10	15	35		10	35					15		14	21	50
1830	2	1	15	40	25	10	62	62	40	10	58	45	55	40	8	55	20	20	40	55			19	36	62
1830	3	3	20	45	25	8	53	6	8	10	55	20	61		8								12	27	61
1830	4	2	15	55	50	20	55	12	12	8	50	35	35	50	8	35	40		50	50			18	35	58
1830	5	2	12	30	25	30	63	30	35	6	61	45	50	25	12	50	4	12		58			17	32	63
1830	6	2	35	45	30	30	55	40	30	25	64	62	45	30	12	35		50		55			16	40	64
1830	7	4	20	35	25	30	62	45	10	2	25	45	30	30	10	50	3	40			4		17	27	62
1830	8	3	30	30	35	12	62	58	8	6	55	40	55	45	8	40		20	58		1	40	19	34	62
1831	1	1	6	30	25	10	61	50	20	15	55	30	45	45	12	58	12	40		58		10	19	33	61
1831	2	3	15	12	15	40	58	40	40	7	64	30	55	55	12	8							14	32	64
1831	3	1	8	12	40	20	40	12	53	6	50	25	45	40	15	53					8		15	28	53
1831	4	2	10	25	45	8	55	50	45	4	45	40	50	53	12	45			53				15	36	55
1831	5	1	12	55	45	8	62	40	30	4	61	35	55	45	15	53	8		30		3		18	34	62
1831	6	3	30	50	30	12	58	40	55	12	58	30	45	12	8	20					25		15	32	58
1832	1	2	6	45	30	4	58	45	20	10	55	40	45	55	8	53	12	45					17	34	58
1832	2	2	15	45	50	40	58	45	35	20	50	25	55	45	12	45	3		45	63		15	18	37	63
1832	3	3+	50	58	20	40	53	20	8	6	58	25	55	15	20	30			12				15	31	58
1832	4	3	12	12	53	40	58	53	40	4	64	20	50	50	12	50					15		16	36	64
1832	5	2	12	15	25	8	53	53	10	10	53	30	40	40	12	53							14	30	53
1832	6	3	15	35	50	8	45	45	6	6	45	35	40	45	12	53		40		53		35	17	33	53
1832	7	3	15	45	30	8	62	45	20	4	61	40	40	55	12	50	40		55		40		17	37	62
1833	1	3	40	35	30	12	62	35	20	25	64	35	58	30	12	50	8		30		25	20	19	34	64
1833	2	4+	35	45	15	10	45	12	50	20	6	30	62	20									12	29	62



Capped Bust Dime Census - Table 2 (continued)

Year	JR#	Rarity	1423	LM56	1068	1300	578	323	869	48	1452	1212	LM13	1006	1057	114	855	1521	1510	1490	519	70	RPD	AVG	MAX
1833	3	5+	40	10	6	10	58	15	30	3	3	55	63			63							12	30	63
1833	4	2	6	12	45	30	63	50	45	8	53	55	55	53	15	53	4					40	16	37	63
1833	5	1	4	20	25	10	61	55	20	6	55	40	45	55	10	58	8		40		8	19	33	63	
1833	6	1	12	12	15	40	63	8	30	20	45	55	55	50	45		4					8	15	31	63
1833	7	4+	20	25	15	30	61	35	15	8	50	15	62	8	6								13	27	62
1833	8	4	12	55	25	40	58	40	15	58	45	35	55	35	12	20							14	36	58
1833	9	2	35	20	50	65	55	35	40	15	45	55	50	50	12	58		40	50	62		20	18	42	65
1833	10	3	25	30	53	10	55	35	40	8	45	25	50	30	12	53							14	34	55
1834	1	1	20	45	45	40	58	45	45	6	62	35	55	53	12	45	45					25	16	40	62
1834	2	3	15	35	45	12	63	45	20	10	58	30	45	45	15	40	25	40			10		17	33	63
1834	3	4	8	50	10	8	40	45	20	10	25	53	50	40	8						7		14	27	53
1834	4	3	8	58	8	20	62	35	55	30	25	40	53	25	15	35	8					10	16	30	62
1834	5	1	15	20	50	6	63	45	53	25	55	30	63	58	12	50		40	58	58		30	19	41	63
1834	6	2	12	40	35	12	63	58	60	20	40	30	53	40	10	45					8	25	16	34	63
1834	7	2	6	40	45	10	58	35	35	6	55	20	53	50	10	50	4	30	50	63			20	36	63
1835	1	1	25	12	50	12	58	30	20	10	62	58	58	55	12	45	3		55			25	18	36	62
1835	2	3+	12	40	45	8	62	40	40	30	55	61	53	40	12	40	20	30		53			17	38	62
1835	3	2	45	35	40	8	55	45	30	4	55	53	62	53	10	53		30	53		8		18	38	62
1835	4	2	30	50	35	6	55	30	62	10	58	20	50	25	10	45	15				12	25	17	32	62
1835	5	1	8	15	40	55	50	35	40	4	50	25	30	50	10	50	8					35	16	32	55
1835	6	3+	15	45	30	20	55	40	20	4	53	20	55	62	10	40	4			58			16	33	62
1835	7	3+	10	45	45	40	45	40	40	10	20	55	55	55	10	6	4				12	12	17	30	55
1835	8	3	8	12	25	10	62	58	30	20	50	50	40	58	10	50							14	35	62
1835	9	2	35	12	20	10	62	35	40	20	55	40	53	58	10	58	40	25				30	17	35	62
1836	1	3	45	35	50	10	63	45	25	15	45	35	50	45	15	53	4			58	10		18	36	63
1836	2	2	63	45	30	12	58	58	40	6	53	30	45	55	8	58	12	25	55				18	40	63
1836	3	3	35	40	45	55	62	50	35	20	62	30	53	35	10	64	8	25	35			40	18	39	64
1837	1	4-	10	55	45	30	62	4	30	10	53	50	45	62	12	12	8				25		16	32	62
1837	2	3	55	30	20	20	58	8	10	4	58	25	53	35	20	40	8				25		16	29	58
1837	3	2	15	20	53	10	40	55	30	12	63	30	55	55	12	62	4		55		20	12	18	34	63
1837	4	1	15	25	20	12	63	55	20	20	45	20	45	45	15	61		30	35	58			18	36	63
# Marriages	123	122	122	122	122	121	121	121	121	121	120	120	119	112	112	97	59	52	49	41	36	33	123 Known		
Avg. Grade	20	35	30	18	52	34	25	11	46	32	47	36	12	37	11	25	41	53	13	23	Die Marriages				

# A Numismatic Cover Up: Understanding the “Scroll” Cud

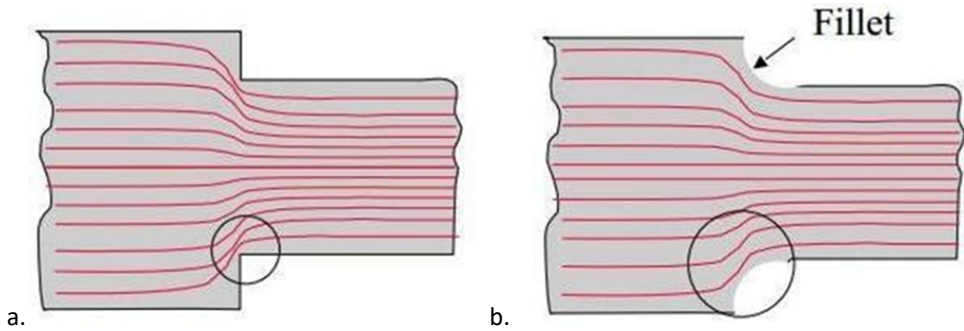
*By Louis Scuderi*

## INTRODUCTION-

Some years ago while traveling I noticed a nice 1832 LM10.4 for sale (Figure 1 top). Already owning a Very Late Die State retained cud (figure 1 bottom), I was about ready to pass on the coin when I noticed something odd about the scroll letters that did not match my memory of those same scroll letters on my retained cud example. Something not only seemed wrong with the coin but also in fact seemed reversed – as in an out of the normal die progression order. Of course not having my VLDS coin available or even images to examine, did not help (a laptop with images now accompanies me on all trips). Thinking that I might have found a new remarriage and hating uncertainty in my collecting I had no choice but to purchase the coin—even though I already was on my third coin probation of the year (that is another story for the JRJ in itself).



**Figure 1.** 1832 LM10.4 die states showing progressive covering and uncovering of the scroll letters as we proceed from an EDS to a VLDS. Top. Early die state. Note the covering of the top of the letters BUS UN in the scroll. Middle. Middle die state. Note the extension of the covering of these letters. Bottom. Late die state. Note that on this late die state example the letters BUS UN are completely visible again.



**Figure 2.** a. Die with sharp angles.

b. Addition of a curved fillet reduces stress concentration.

*Circled areas in both figures show areas of stress concentration. Closer stress flow lines indicate higher stress.*

Upon getting home a week later the coin was waiting for me. I stopped by the bank to extract my VLDS retained cud 1832 LM10.4. A quick comparison confirmed my apprehensions about the scroll letters. Based on the degree of missing letters on the scroll my early die state LM 10.4 actually appeared to be a later die state than the full cud die state (See Figure 1). Turning to my notes and some additional images, I was both baffled and intrigued so I asked Richard Meaney, an expert on the series, for his thoughts. His surprise at the new find and an image of his example of 1832 LM10.4 (Figure 1 middle) further increased my feeling that I had completely misunderstood the evolution of the cud on the LM10.4. In fact, it seemed to make no sense at all and caused me to question my understanding of cuds and their actual formation process in general.

One thing led to another and the “cud” question expanded into a half-decade long study of cuds, die chips and die cracks in an attempt to understand stress failures in general. The die chip paper was published in 2018 (Scuderi, 2018) and contains many important points about die failure and

stress that are pertinent to the study of cuds. Rather than repeating these results here, I refer the reader to this earlier paper. The major take away from this earlier article is that stress can build up on vertical risers where there is a sharp change in direction (Figure 2a). At these locations, there is an abrupt change in stress concentration as stress flow lines are crowded together (Young and Budynas, 2002). By adding fillets (rounding of corners) on points and lines of expected high stress on a die (Figure 2b) stress can be distributed over a broader area effectively making the location capable of bearing larger loads and reducing the likelihood of stress failure (Sun et al., 2000).

## CUD TYPES-

Friedman (2019) outlined basic ideas on how to differentiate between retained and full cuds. In this paper, I take a different angle and attempt to use cud geometry to understand cud formation on the reverse anvil die and to classify cud type. In my approach, there are four different types of reverse cuds dependent on position (Figure 3). I define them in this paper as follows; 1) Edge cuds extending from the edge of

the die to the top(s) or base(s) of a letter or letters (Figures 3a and 4), 2) Internal cuds that do not involve the edge of the die (Figure 3b). Die chips are a special case of internal cuds, 3) Collar cuds which represent a failure of a collar resulting in a gap in the reeds on the “third edge” of the coin (Figure 3c), and, 4) Scroll cuds where an extended area of failure occurs along the upper edge of the scroll (Figure 3d). While they are all associated with brittle die fracture, I believe that the four types are actually the result of the production of slightly different stress fields as the hammer and anvil dies interact with the planchets.



**Figure 3. Cud types.**

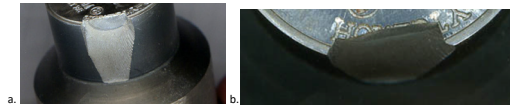
*a. Edge cud. 1831 LM2,*

*b. Internal cud. 1835 LM3,*

*c. Collar cud. 1832 JR2/JR3, d. Scroll cud. 1833 JR4.*

Regardless of type, all cuds shown in Figure 3 represent pieces of the die falling out (Figure 4) either partially in a retained cud or completely in a Full cud (Friedman, 2019). Edge cuds are commonly found in association with the tops of letters (For lists and images see; Logan and McCloskey, 1998; Davis et al., 1984; Zack et al., 2015; Tompkins, 2008, and Rea et al., 2010). In the case of dimes and quarters, occasionally they are found in association with the reverse arrowheads (1832 JR3, 1833JR3, 1834 JR6, 1835 JR1, 1825B2). Internal cuds, including die

chips are found on all denominations and the reader is referred to Scuderi (2018) for a full discussion. Edge cuds, representing a failure of the third die, are rare with the most notable example in the capped bust series being the collar failure progression represented by the 1832JR2/JR3 sequence (See Scuderi, 2001).



**Figure 4.**

*a. Side view of die failure producing an edge cud on a token die.*

*b. Die face view of this edge cud die failure.*

The fourth cud type, and the topic of this paper, which I term a scroll cud based on their association with the right-angled top of the scroll and the stress field produced by this die surface discontinuity, is found on half dimes (Table 1) and dimes (Table 2). While I will not concentrate on obverse hammer die failure, analogous cuds rarely occur on some obverse dies with closely spaced stars (1831 LM3, 1825 JR4, 1830 JR3, 1831JR6, and unconfirmed but possibly on 1832JR6).

## SOME SCROLL CUD EXAMPLES

Besides the spectacular 1832 LM10.4 example shown in Figure 1, many other reverse dies (Tables 1 and 2) exhibit marked die failures along the top of the scroll. Because space is limited here, I illustrate only the half dime examples, and specifically use the 1832 LM10.4 example to point out the salient features of these scroll cuds in order to gain a better understanding of their formation process.

**TABLE 1. CAPPED BUST HALF DIME REVERSE SCROLL CUDS**

Year	LM Marriage Terminal Use	Reverse Die	Reverse cud Area	Terminal Emission Date	1 <sup>st</sup> Die Use	Reeds	Collar Size	Collars Used #
1832	5	R	REV- T1 to A1	1832	1832	96	0.6052	4
1832	10.4	U	REV- T2 to A2	1834	1833	96	0.6065	4, 5
1833	1	S	REV- E1 to E2	1833	1832	96	0.6045	4
1833	8	X	REV- I1 to A1	1834	1832	96	0.6040	5
1835	1	P	REV- I1 to D	1835	1831	97	0.6057	4, 6
1835	5.2	CC	REV- D to S2	1835	1835	97	0.6160	7
1836	1.2	DD	REV- T1 to E2	1836	1835	97	0.6107	8

**TABLE 2. CAPPED BUST DIME REVERSE SCROLL CUDS**

Year	JR Marriage Terminal Use	Reverse Die	Reverse cud Area	Terminal Emission Date	1 <sup>st</sup> Die Use
1828	2	1828 B	D to S2	1829	1829
1830	2	1830 B	S1 to O	1830	1829
1833	1	1833 A	D to E2	1833	1833
1833	4	1833 C	E1 to A2	1833	1832
1833	8	1833 D	O to A2	1834	1833
1834	2	1834 B	A1 to F	1834	1834
1835	3	1835 C	A1 to A2	1835	1835
1835	5	1835 E	E2 to F	1835	1835

**1832 LM10.4**

In Figure 5, I illustrate the “disappearing” and “reappearing” BUS UN scroll letters on the 1832 LM10.4 that first forced me to rethink the formation process. It is clear that the letters S and U are only partially covered in the VEDS (Figure 5a). As the cud further develops in the EDS (Figure 5b) the tops of US UN are covered. Further covering of these letters, including the upper corner of the B and more of the N, shows in the LDS (Figure 5c). Interestingly, the space between S and U, which was covered in the EDS, begins to reappear. In the VLDS retained cud die state all of the letters reappear!



**Figure 5.** 1832 LM10.4 die state progression.  
a. VEDS, b. EDS, c. LDS, d. VLDS



## OTHER EXAMPLES

In Figure 6, I illustrate the additional examples of half dime scroll cuds that exhibit covering and uncovering of the letters on the scroll during the progression of die deterioration from early to late die states like that seen in the 1832 LM10.4 example shown above. An additional commonality between all of these reverse dies is that the terminal state of each exhibits the complete or nearly complete reemergence of the covered scroll letters of E PLURIBUS UNUM. In a few cases, like that shown in Figure 5c between the S and U in the motto, small parts of the motto begin to emerge prior to the full reemergence of all of the motto letters.



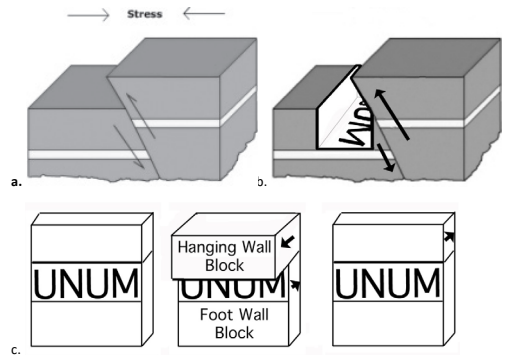
**Figure 6.** a. 1835 LM1, b. 1835 LM5.2, c. 1832 LM10.4, d. 1836 LM1.2, e. 1833 LM1, f. 1833 LM8

## ANALYSIS

So what is going on here? How can letters be first visible, then disappear and then reemerge as if nothing had happened?

The key important point is to realize that nothing really happened to the letters. They were there all along. A simple geometric relationship that I borrow from my discipline of geology can shed

some light on this phenomenon and help to explain the concept of the scroll cud and its disappearing/reappearing letters. In Figure 7a, I show a diagram of a reverse fault. Geologically a reverse fault is a fracture in which the hanging wall (right side of Figure 7a) has moved upward relative to the footwall (left side of Figure 7a). Reverse faults occur where two blocks of rock are forced together by compression which creates stress. It is important to note here that the process of faulting at an angle forces one wall of the fault to overhang (hence the “hanging” wall name). When viewed from above any object that lies under the hanging wall is hidden by it. Translated to the coinage dies involved in a scroll cud (Figures 7b and c) and remembering that the edge of the scroll is raised on the minted coin but actually cut into the die we can see how the letters in the legend can become hidden giving the geometry of the die fracture.



**Figure 7.** a. Reverse fault from a cross sectional view. Right side is termed the hanging wall while the left side is termed the foot wall. b. Reverse fault model applied to Scroll cud geometry. The lettering on the scroll is raised within the recessed portion of the die that produces the raised scroll. c. Left - Lettering on the scroll prior to initiation of the cud, Middle - Hidden lettering occurring when the hanging wall blocks the flow of metal, Right- Lettering reappears as hanging wall portion of the die falls away producing a retained or full cud.



## CONCLUSIONS

In conclusion, I note that of the four types of cuds that I described earlier the scroll cud is the most complex. It occurs when stress is focused on a major right angle portion of the die. This die fracture, where one portion of the die slides over another, results in the disappearance and reappearance of die elements that mimic die deterioration. Irregularities in the edge of the scroll cud are likely the result of both metal flow into the void created by the overhanging portion of the die and actual die deterioration as small pieces of that overhanging edge break off with repeated striking. I note that this explanation might also be applicable to some disappearing and reappearing letters and devices found on other denominations

So, rather than identifying a new die remarriage as I initially thought I might have found five years ago, this 1832 LM10.4 oddity led me to what is hopefully a better understanding of cuds on capped bust coinage. As noted previously this is in essence part two of a three-part study of die deterioration (part one being die chips (Scuderi, 2018)). A paper on die crack formation and die crack relationships to the minting process over the period of capped bust coinage will be forthcoming.

## ACKNOWLEDGEMENTS

I wish to thank Richard Meaney for his insights on capped bust half dimes and for providing examples from his collection. I thank Jeffery Friedman for discussions on this topic and on cuds in general.

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# Analysis of 1831-1838 Quarters Available Online and Estimates of Grade Distribution, Survival Rate, and Rarity

*By Nicholas Pottschmidt*

## INTRODUCTION

In the April 2019 issue of the John Reich Journal, I presented the results of a study I conducted on large diameter (1815-1828) capped bust quarters that were for sale online. Several months after completing that project, I thought it would be worthwhile to repeat the process with small diameter (1831-1838) capped bust quarters. While I have developed a reasonable knowledge of this subseries over the past few years, I did expect to learn quite a bit regarding the relative scarcities of the various dates and die marriages. As was the case for the 1815-1828 study, I analyzed a large number of 1831-1838 quarters listed on two popular online sales platforms: Ebay and Collectors.com. The results of this study yielded valuable information about date distribution, grade distribution, survival rate, and die marriage rarity for small diameter capped bust quarters.

## METHODOLOGY

For this study, I analyzed all of the 1831-1838 quarters listed on Ebay and Collectors.com. I chose to analyze coins

on these two sites because they offered a very large sample size of bust quarters for analysis. To complete the analysis, I determined the grade and attributed the die marriage of every 1831-1838 quarter listed on Ebay and Collectors.com from September 15 to October 12, 2019. On Ebay, I found 935 quarters (I could attribute the die marriages of 906) and on Collectors.com, I found 1183 quarters (I could attribute the die marriages of 1155). Some of the coins were present on both sites, it resulted in analyzing roughly 1500 different coins. The grades I recorded were based on the details found on the coins and did not account for any damage or cleaning (many of the coins have acquired issues over the decades). My primary goal regarding grades was to determine general trends in the amount of wear observed on the coins. I elected to use the following adjectival categories to streamline the process: PO, FR, AG, G, VG, F, VF, XF, AU, MS, and PF.

## ASSUMPTIONS

Since I could not analyze the entire 1831-1838 quarter population, it goes without

saying that several assumptions were made in order to extrapolate the data I collected. Some of these assumptions have limitations that warrant discussion. The following assumptions were made:

1. The first assumption is that the date distribution of the population analyzed is representative of the date distribution of the entire 1831-1838 quarter population. I believe that this is a reasonable assumption, since there are no clear key dates in the subseries.
2. The next assumption is that the grades encountered in the surveyed population are representative of the entire population. This assumption is not perfect since I believe higher graded coins have a greater chance of being listed on one of these two sites. I suspect that on average the coins on both sites grade slightly higher than the overall population of 1831-1838 quarters, but there is no way to prove this since it is impossible to analyze all of the bust quarters not present online.
3. The next assumption is that the number of coins of each die marriage encountered in the analysis perfectly represents the die marriage distribution of the entire population. This assumption falls short regarding some die marriages, since many popular and scarce die marriages (like 1831 B-7, 1834 B-5, and 1836 B-5) are overrepresented due to what I call the “rare coin bias.” I think of the “rare coin bias” as the likelihood for scarcer coins to be overrepresented online. Sellers wish to offer their scarce die marriages to the widest audience possible, so it makes sense that scarcer die marriages would be overrepresented on these sites.
4. The next assumption is very important for the survival rate and die marriage rarity estimates. I decided to use the same method that I used for my analysis of 1815-1828 quarters. Basically, the method uses the number of Rarity-2 die marriage coins to determine a “multiplier” that I could use to estimate the total population based on the coins I analyzed.

I chose R2 die marriages because they were common enough to not be heavily overrepresented due to the “rare coin bias” but not common enough to be R1 (which has no upper survival limit). The R2 rarity rating ranges from 500 to 1250 coins, with an average of 875 coins. The R2 marriages I used were 1831 B-2, 1832 B-1, 1832 B-2, 1833 B-1, and 1835 B-7. There are a few other die marriages that are purported to be R2, but after collecting the data, I became suspicious of their R2 status, so I excluded them from the calculation. These marriages are 1831 B-5, 1835 B-2, and 1836 B-2. Some of the five die marriages included in the calculation were better represented than others, so I calculated the average of the five die marriages to determine the average number of coins recorded per R2 die marriage.

The main assumption is that this average (and the average of 875 total coins per R2 die marriage) can be used to calculate a “multiplier” that can in turn be used to estimate the total population of a die marriage, date, or the entire subseries. For example, if I found an average of 35 coins per R2 die marriage, the multiplier would be 25 ( $35 \times 25 = 875$ ).

There is a certain degree of uncertainty present, since the presence or absence of a few coins in the survey could significantly affect the results. For this reason, I used the standard deviation of the number of coins present per R2 die marriage to determine a 95% confidence interval for the average number of coins per R2 die marriage. This 95% confidence interval was used to determine minimum and maximum multipliers. These allowed me to determine a range of total survival rates that I am fairly confident encompasses the actual total number of 1831-1838 quarters.

## RESULTS

As stated previously, a total of 935 quarters were found on Ebay and 1183 quarters were found on Collectors.com. **Table 1** summarizes the number of each die marriage found on Ebay and **Table 2** summarizes the number of each die marriage found on Collectors.com. Some die marriages were undetermined due to excessive wear or poor images.

**Table 1:** *Number of examples of each die marriage found on Ebay.*

Date	B-1	B-2	B-3	B-4	B-5	B-6	B-7	B-8	Unknown
1831	16	26	5	51	34	13	1		6
1832	15	9							0
1833	26	10							1
1834	120	20	10	41	4				5
1835	59	57	13	11	55	28	21	5	14
1836	15	33	53	7	0				0
1837	8	38	5	4	1	0			3
1838	92								0

**Table 2:** *Number of examples of each die marriage found on Collectors.com.*

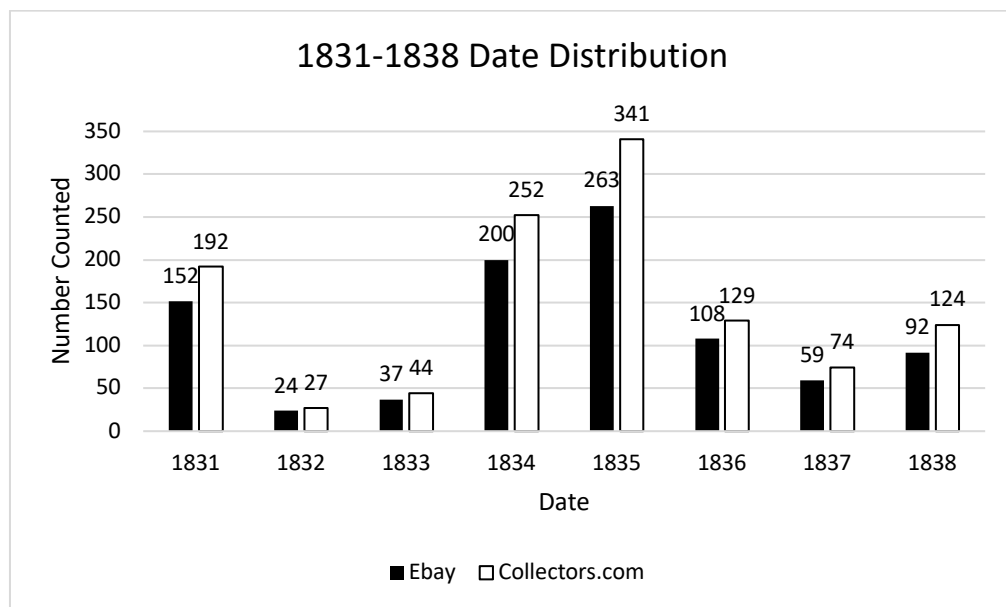
Date	B-1	B-2	B-3	B-4	B-5	B-6	B-7	B-8	Unknown
1831	25	27	6	62	51	15	1		5
1832	15	12							0
1833	30	14							0
1834	150	23	12	58	3				6
1835	76	74	12	16	67	42	36	6	12
1836	17	39	61	10	1				1
1837	7	46	9	6	2	0			4
1838	124								0

## DATE DISTRIBUTION

**Figure 1** displays the date distribution for the series. Unsurprisingly, 1834 and 1835 were the most commonly encountered dates and 1832 and 1833 were the least commonly encountered. The data supports the commonly held belief that many of the 1,952,000 quarters struck in 1835 bore a date other than 1835. Furthermore, the data suggests that more 1834 quarters were struck than just the officially reported

figure of 286,000. It is very likely that many of the coins struck in 1835 were actually dated 1834, which the data supports. Overall, the data from both sites suggests that 1832 is the scarcest date, followed by 1833, and then 1837, 1836, and 1838 are of roughly the same scarcity. 1831 is a common date, and 1834 and 1835 are the two most common dates for the subseries. Both Ebay and Collectors.com suggest that 1835 is slightly more common than 1834.

**Figure 1:** *Date distribution of 1831-1838 quarters found on Ebay and Collectors.com.*



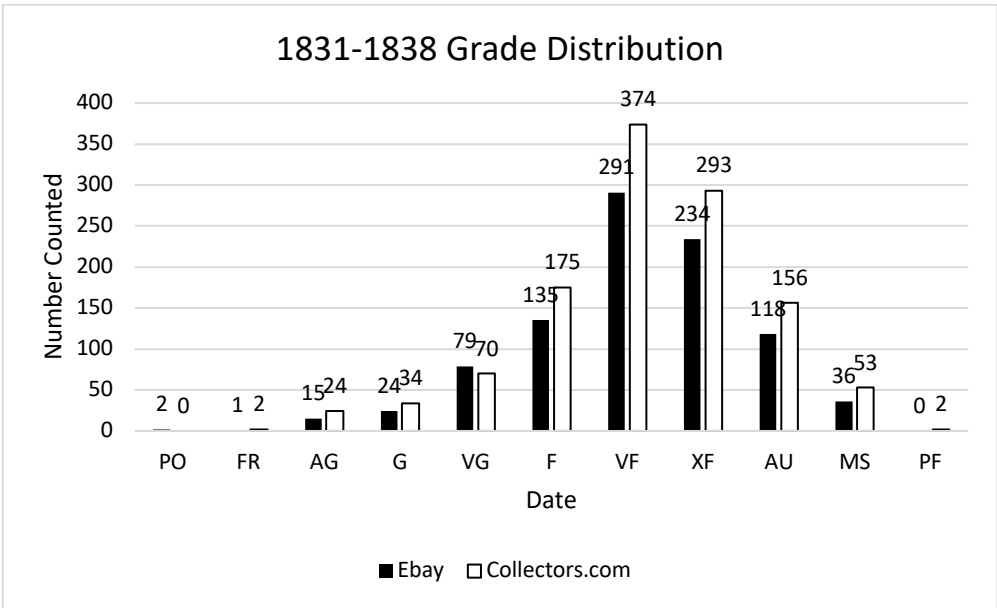


GRADE DISTRIBUTION

Fewer low grade quarters were encountered when compared with the 1815-1828 subseries. This makes sense since 1815-1828 quarters had an additional 10 to 20 years to circulate before they were removed from circulation for their silver content. **Figure 2** displays the grade distributions of coins on Ebay and Collectors.com.

The grade distributions for both sites were very similar. It is worth noting that most of the coins encountered were cleaned or damaged. The grade distributions were centered around VF and XF. My personal belief is that there are possibly more lower grade 1831-1838 quarters than **Figure 2** suggests, but that is only an opinion and cannot be readily confirmed.

Figure 2: Grade distribution of 1831-1838 quarters found on Ebay and Collectors.com.



## SURVIVAL RATE

As mentioned in the **Assumptions** section, R2 marriages were used to estimate the size of the entire population of 1831-1838 quarters. Separate estimates were made with the Ebay data and the Collectors.com data. The results were very similar, and they were averaged to obtain one survival rate. **Table 3** lists data used to make these estimates.

Averages of 19.40 coins per R2 die marriage and 24.00 coins per R2 die marriage were calculated for Ebay and Collectors.com, respectively. Using the standard deviations of the number found per die marriage, 95% confidence intervals were determined to be  $\pm 6.46$  coins and  $\pm 8.92$  for Ebay and Collectors.com, respectively.

**Table 3:** *Number of each R2 die marriage encountered, average number encountered per R2 die marriage, and 95% confidence interval.*

Date	B#	Ebay	Collectors.com
1831	2	26	27
1832	1	15	15
1832	2	9	12
1833	1	26	30
1835	7	21	36
Average Number of Coins per R2 Die Marriage:		19.40	24.00
95% Confidence Interval:		$\pm 6.46$	$\pm 8.92$
Minimum Number of Coins per R2 Die Marriage:		12.94	15.08
Maximum Number of Coins per R2 Die Marriage:		25.86	32.92

The average total number of coins per R2 die marriage (875 coins) was divided by the minimum, average, and maximum numbers of coins per R2 die marriage to determine the multipliers. These multipliers were then multiplied by the total number of coins surveyed (935 on Ebay and 1183 on Collectors.com) to determine minimum, average, and maximum population estimates for the entire subseries. Due to the nature of the calculations, the

average population estimate is not the median of the maximum and minimum estimates. This calculation was carried out independently for both the Ebay data and the Collectors.com data. Ebay and Collectors.com population estimates were then averaged to determine overall population estimates. These estimates can be found in **Table 4**. **Table 5** lists survival rate percentages, based on a total mintage of 4,202,400 quarters.

**Table 4:** *Minimum, average, and maximum 1831-1838 quarter population estimates.*

	Minimum Population	Average Population	Maximum Population
Ebay	31638	42171	63220
Collectors.com	31446	43130	68631
Average	31542	42651	65925

**Table 5:** *Minimum, average, and maximum 1831-1838 quarter survival rate estimates.*

	Minimum Survival Rate	Average Survival Rate	Maximum Survival Rate
Ebay	0.75%	1.00%	1.50%
Collectors.com	0.75%	1.03%	1.63%
Average	0.75%	1.01%	1.57%

To summarize, the analysis estimates the total 1831-1838 quarter population is between 31,542 coins and 65,925 coins, with an average of 42,651 coins. The survival rate is estimated to be between 0.75% and 1.57%, with an average survival

rate of 1.01%. Admittedly, these survival rate estimates are lower than I expected. They are significantly lower than the survival rates that my analysis of 1815-1828 quarters yielded. **Table 6** reports the previously determined 1815-1828 survival rate estimates for the sake of comparison.

**Table 6:** *Minimum, average, and maximum 1815-1828 quarter survival rate estimates from previous analysis provided for comparison.*

	Minimum Survival Rate	Average Survival Rate	Maximum Survival Rate
Ebay	1.61%	2.39%	4.67%
Collectors.com	1.55%	2.23%	4.00%
Average	1.58%	2.31%	4.33%

Before I began the analysis for the 1831-1838 subseries, I was expecting for the survival rates to be higher than the 1815-1828 dates. I have a couple of thoughts about this disparity. On one hand, these estimates could be significantly flawed. In *Early United States Quarters 1796-1838*, Steve Tompkins estimates a survival rate of 10% or more. This survival rate corresponds to at least 420,240 coins. My average estimate is one tenth that of Tompkins', which could be an indication that something is wrong with my methodology. However, if the actual number of surviving specimens was significantly higher than the estimate I calculated, that would likely mean that all of the die marriage rarity ratings that have been generally accepted for many years are significantly inaccurate.

On the other hand, the argument could be made that my estimate is not too unreasonable. My average 1831-1838 survival estimate is roughly 45% greater than my average 1815-1828 estimate. The number of listings for 1831-1838 quarters

on Ebay and Collectors.com is not too far off from being 45% greater than the number of listings for 1815-1828 quarters on both sites, so 42,651 surviving coins may not be too far off from reality.

The lower survival rate for 1831-1838 quarters may be able to be satisfactorily explained. When coin collecting became more prevalent in the United States in the mid to late 1800s, collectors may have been less compelled to save as many 1831-1838 quarters when compared to 1815-1828 quarters. Since they had a higher mintage, 1831-1838 quarters may have been seen as less interesting or less worthy of collecting, and thus a greater percentage of them may have found their way into a melting pot.

My survival rate estimate may not seem reasonable to everyone, but I'm inclined to believe that it is at least somewhat accurate. At the very least, this survival rate estimate keeps the generally accepted die marriage rarity ratings fairly intact.

## DIE MARRIAGE RARITY

As mentioned previously, the average number of coins per R2 die marriage (listed in **Table 3**) for Ebay and Collectors.com were used to find multipliers that were in turn used to estimate the total population of each die marriage. The Ebay and Collectors.com estimates for each die marriage were averaged. The average

population estimate for each die marriage can be found in **Table 7**. The corresponding rarity ratings for these estimates can be found in **Table 8**. Coins that I believe may be overrepresented due to the “rare coin bias” described in the **Assumptions** section are marked with an asterisk (\*); their estimated populations may (but not necessarily) be inaccurately high.

**Table 7:** Average number of examples of each die marriage predicted by Ebay and Collectors.com analysis. Entries marked with an asterisk (\*) may be overestimated.

Date	B-1	B-2	B-3	B-4	B-5	B-6	B-7	B-8
1831	817	1079	222	2280	1696	567	41*	
1832	612	422						
1833	1133	481						
1834	5441	870	444	1982	145*			
1835	2716	2634	512	540	2462	1397	1130	222
1836	648	1455	2307	340	18*			
1837	308	1696	277	200	59*	0*		
1838	4335							

**Table 8:** Estimated rarity rating of each die marriage predicted by Ebay and Collectors.com analysis. Entries marked with an asterisk (\*) may underestimate actual rarity.

Date	B-1	B-2	B-3	B-4	B-5	B-6	B-7	B-8
1831	2	2	3+	1	1	2	5+*	
1832	2	3						
1833	2	3						
1834	1	2	3	1	4*			
1835	1	1	2	2	1	1	2	3+*
1836	2	1	1	3	6+*			
1837	3	1	3+	4-	5*	8*		
1838	1							



Many of the rarity ratings are either equivalent or within one level of published rarity ratings. This lends some credibility that the total population estimate of 42,651 coins may not be too far off the mark (assuming the commonly accepted rarity ratings are fairly accurate).

When conducting the analysis, I believed that the following six die marriages could be subject to overrepresentation due to being scarce/rare: 1831 B-7, 1834 B-5, 1835 B-8, 1836 B-5, 1837 B-5, and 1837 B-6. Overrepresentation could cause these die marriages to have inflated total population estimates from the calculation process and rarity ratings that may be lower than they should be.

This analysis revealed many die marriages that are possibly more readily available than generally thought. The analysis suggests that several R2 (1831 B-5, 1835 B-2, and 1836 B-2) and R3 (1835 B-5 and 1835 B-6) die marriages may actually be solidly R1. The analysis also suggests that three R4 marriages (1834 B-2, 1835 B-3, and 1835 B-4) may only be R2. On the other hand, the analysis does seem to confirm the scarcity of several die marriages (1831 B-7, 1834 B-5, 1836 B-5, 1837 B-5, and 1837 B-6). It also confirms that 1837 die marriages (other than B-2) range from scarce to exceedingly rare.

Anyone familiar with the 1831-1838 quarters is probably not too surprised that the 1834 B-1 was the most commonly encountered die marriage. The 1834 B-1 was twice as frequently encountered as the next most common die marriage, and the analysis suggests that nearly 5,500 examples of the die marriage may exist. The moral of the story is that there is no reason to pay a large premium for the 1834

B-1, even if some may tout it for being the O/F reverse variety.

## CONCLUSIONS

This study revealed valuable information about small diameter capped bust quarters. The following points summarize the main findings:

- 1834 and 1835 were the most common dates, while 1832 and 1833 were the scarcest dates.
- Most 1831-1838 quarters were cleaned or damaged. The grade distribution was centered around VF and XF on both Ebay and Collectors.com.
- The analysis estimates a total population of 42,651 coins. This corresponds to a survival rate of 1.01%. Accounting for uncertainty yields a range of 31,542 coins to 65,925 coins (0.75% to 1.57%). These estimates vary widely from Tompkins' estimate, though a somewhat convincing argument could be made in support of the lower survival rate.
- The following die marriages may be significantly more common than their generally-accepted rarity ratings may suggest: 1831 B-5, 1834 B-2, 1835 B-2, 1835 B-3, 1835 B-4, 1835 B-5, 1835 B-6, and 1836 B-2.
- The scarcity/rarity of the following die marriages seems to be upheld by the study: 1831 B-7, 1834 B-5, 1836 B-5, 1837 B-5, and 1837 B-6.

This study was a great learning experience for me. I encourage any comments or criticism that could improve the analysis of the data I collected. I can be reached at [nsp16@zips.uakron.edu](mailto:nsp16@zips.uakron.edu).

References: Tompkins, Steve M. *Early United States Quarters 1796-1838*. Sequim, WA: Destni, Inc., 2008.



# One That Got Away 65 Years Ago — Or Did It?

*By W. David Perkins, NLG*

I was two years old and living in Winnetka, Illinois, a Chicago suburb, when early dollar specialist collector Frank M. Stirling of Baton Rouge, Louisiana beat me to the punch on a group of early dollars. Knowing what I do today I might have handled it differently!

All kidding aside, can you imagine getting a group of nine high-grade early dollars 1795 to 1803 along with three Gem Proof Morgan Dollars in the mail consigned on approval from a dealer, let alone B. Max Mehl of Fort Worth, Texas?

This happened in January 1954. In a letter dated January 25<sup>th</sup>, 1954, B. Max Mehl wrote to Frank M. Stirling:

Dear Mr. Stirling:

Am pleased to send you herewith most of the silver dollars you asked for.

In your letter you asked me to send you the “most beautiful” dollars I have, and that is just exactly what I am doing. I have most of these, not all, in inferior

condition at lesser prices, but as you asked for beautiful coins I am sending you just that.

I am also sure that you realize the great rarity of these early U. S. silver dollars in such beautiful condition. They are only available when great collections come on the market. These coins are mostly from famous collections. They were collected by a discriminating collector over a period of some thirty-five years. I acquired this collection a few months ago. Have never offered them as I enjoy having these beautiful coins in stock so that I may have them when orders are received for them. They come in so few and far between. This is not a sales talk but simply a statement of actual and true facts.

The prices cannot be considered as “bargains,” but they can be considered, and certainly are, very fair and consistent with the beauty and rarity of the coins.

All I ask is that you kindly give this your careful consideration and

make a prompt report on them.  
Thanking you, I am with kind  
regards,

Cordially yours,  
(Signed B. Max Mehl)

I've included a photo of the invoice from Mehl to Stirling dated January 25<sup>th</sup>, 1954. You can see which coins Stirling purchased and which ones he returned. Many of these coins would individually be \$50,000 and up today, with two or three even being six figure coins today depending upon their eye appeal and condition.


To top this off, in a letter dated a week or so later, February 2, 1954 Mehl sends Stirling two more 1795 Flowing Hair Dollars on

consignment. Stirling purchased one of the two, a 1795 Three Leaves (under wings) type at \$150.00.

Mehl thanks Stirling for his orders and payment. Mehl adds,

Unfortunately, in purchasing this fine collection, the owner did not have a record of each and every piece just where he got them from, but I know they came from such collections as the Dunham, Roe and Atwater.

It's just possible they didn't all get away. But likely I'll never know. Just wish there had been photos!

 <b>B. MAX MEHL</b> <i>Namismatist</i> FORT WORTH, TEXAS SELECTIONS CONSIGNED ON APPROVAL		TELEPHONE 2-6451 CABLE ADDRESS "MEHL, FORT WORTH"			
To <u>Mr. Frank M. Stirling,</u> <u>2919 Fairfields Avenue, Baton Rouge 7, La.</u>					
Shipped Via <u>Registered</u>		January 25th, 1954.			
<small>THESE GOODS ARE SENT ON CONSIGNMENT AND APPROVAL, AND THE TITLE IN THE CONSIGNOR DOES NOT PASS UNTIL THEY ARE PAID FOR.</small>					
NO.	DESCRIPTION	PRICE	NO.	DESCRIPTION	PRICE
<u>United States Silver Dollars</u>			6	Brought forward -	\$ 525.00
1	1795 Flowing hair. Uncirculated. A gem and of great rarity.	\$ 150.00	7	1800 Perfect date. Just a shade from uncirculated, sharp. Another difficult date to find so choice.	100.00
2	1796 Small date. Small letters. Extremely fine. Seldom found so choice. (The only specimen I have in stock)	75.00	8	1801 Close date. Practically uncirculated. Extremely rare so choice. (I know of no better specimens than this which have sold for \$125.00)	100.00
3	1798 The rare variety with small eagle and thirteen stars. Practically uncirculated; unusually bold impression. This is one of the rarest early silver dollars and about the most difficult to find choice. They seldom come better than about good or very good. Extremely rare in this remarkable condition.	125.00	9	1802 over ol. Practically uncirculated. Another rarity in this beautiful condition.	100.00
4	1798 Heraldic eagle. Uncirculated with full mint luster and bold impression. Not a rare date, but excessively rare so choice.	100.00	10	1803 Small date. Uncirculated with mint luster.	110.00
5	1799 Perfect date. Practically uncirculated. Another most difficult coin to find so choice.	75.00	11	1886 Perfect brilliant proof gem.	20.00
		\$ 525.00	12	1894 Perfect brilliant proof. Very scarce.	27.50
			By remittance		\$ 500.00
			Balance due		\$ 507.30

*B. Max Mehl's Invoice to Frank M. Stirling of Baton Rouge, LA dated January 25<sup>th</sup>, 1954. Stirling appears to have purchased five coins and returned seven.*

# 1838 GR-5

## "Early Sunrise" Die Stage

*By Jim Koenings*

In the July 2019 issue of the JR Journal Article "1838 GR-5, Another Great Rarity" the most important photo was accidentally left out and the previous photo was used again. Below is an enlarged photo of the "Early Sunrise" Die Stage reverse:



*1838 GR-5 NGC AU53 Reverse (100% Die Break)*

Next is a photo of a Later Die Stage of the 1838 GR-5 obverse (a different specimen is being used to more clearly illustrate the die break on the lower obverse).

After the mint employees noticed the large die break on the reverse, they replaced it with a new reverse and the Die Marriage 1838 GR-6 was created. The obverse still had the die break from the bust to the date.



*1838 GR-5 PCGS AU details Obverse*

The 1838 GR-5 "Early Sunrise" Die Stage is extremely rare with only 3 specimens known with the 100% die break. As of this printing, there are only 12 known of all 1838 GR-5 Die Stages. The only Auction record of an 1838 GR-5 (then known as 1838 JR-18) was in the Heritage Auction for Jules Reivers Collection in January 26-28, 2006.

Should you find any specimen of 1838 GR-5, please report it to [bustcoin1@verizon.net](mailto:bustcoin1@verizon.net).

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d \_\_\_\_ Draped Bust Small Eagle Dimes  
e \_\_\_\_ Draped Bust Heraldic Eagle Dimes  
f \_\_\_\_ Capped Bust Dimes  
g \_\_\_\_ Draped Bust Quarter Dollars

- h \_\_\_\_ Capped Bust Quarter Dollars  
i \_\_\_\_ Flowing Hair Bust Half Dollars  
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